SEP 2 7 2002



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

RECEIVED

SEP 2 5 2002

Applicants:

Samy Ashkar and Jairo Salcedo

TECHNOLOGY CENTER R3700

Serial No.:

09/981,845

Art Unit:

3738

Filed:

October 18, 2001

Examiner:

Not Yet Assigned

For:

OSTEOPONTIN-COATED SURFACES AND METHODS OF USE

Assistant Commissioner for Patents Washington, D.C. 20231

INFORMATION DISCLOSURE STATEMENT

OCT 1 - 2002

Sir:

TECHNOLOGY CENTER R3700

Pursuant to 37 C.F.R. §1.56 and 37 C.F.R. §1.97, Applicants submit an Information Disclosure Statement, including four (4) pages of Form PTO-1449, copies of thirty-three (33) documents cited therein, and a copy of the International Search Report mailed July 23, 2002 in PCT/US01/32457, which corresponds to the above-identified application.

This Information Disclosure Statement is being filed under 37 C.F.R. § 1.97(b) prior to a first Office Action on the merits. It is believed that no fee is required with this submission. However, should a fee be required, the Commissioner is hereby authorized to charge any required fees to Deposit Account No. 50-1868.

U.S. Patents

Number 5,340,934 Issue Date 08-23-1994 Patentee Termine et al. Class/Subclass 536/23.5

U.S.Ś.N.:

09/981.845

Filed: October 18, 2001

INFORMATION DISCLOSURE STATEMENT

Foreign Documents

<u>Number</u>	Publication Date Patentee		Country
WO 89/07613	08-24-1989	Dana-Farber Cancer Inst.	PCT
WO 89/02461	03-23-1989	Schering AG	PCT
WO 92/22316	12-23-1992	Children's Hospital of	PCT
	•	Philadelphia	•
WO 99/08730	02-25-1999	Children's Medical Center Corp.	PCT

Publications

ALBREKTSSON, et al, "The Interface Zone of Inorganic Implant *In Vivo*: Titanium Implants in Bone," *Ann. Biomed. Eng.* 11: 1-27 (1983).

BAGAMBISA, et al. Int. J. Oral Maxillof. Impl. 5: 217-226, 1994.

BORYSIEWICZ, et al., "Isoform of human osteopont in protein," *EMBL*: XP-002201345, May 14, 1990.

BOWERS, et al., "Optimization of Surface Micromorphology for Enhanced Osteoblast Responses In Vitro," Int. J. of Oral and Max. Imp. 7(3): 302-310 (1992).

BUTLER, "The Nature and Significance of Osteopontin," *Connect. Tissue Res.* 23(2-3): 123-136 (1989).

CANTOR, et al., "Recombinant activation protein-1," *EMBL*: XP-002201347, January 10, 1990.

GALANTE, et al., "The Biologic Effects of Implant Materials," *J. Ortho. Res.* 9(5): 760-775 (1991).

GERSTENFELD, et al., "Expression of Differentiated Function by Mineralizing Cultures of Chicken Osteoblasts," *Develop. Biol.* 122(1): 49-60 (1987).

GROESSNER-SCHREIBER, et al., "Enhanced Extracellular Matrix Production and Mineralization by Osteoblasts Cultured on Titanium Surfaces *In Vitro*," *J. Cell Sci.* 101(1): 209-217 (1992).

LEGEROS, et al., "Strategies to Affect Bone Remodeling: Osteointegration," *J. Bone Miner. Res.* 8(S2): S583-S593 (1993).

LIAN, et al., "Concepts of Osteoblast Growth and Differentiation: Basis for Modulation of Bone Cell Development and Tissue ormation," *Crit. Rev. Oral Biol. Med.* 3(3): 269-305 (1992).

Ý.

U.S.S.N.: 09/981,845 Filed: October 18, 2001

INFORMATION DISCLOSURE STATEMENT

MURTY, et al. "Sulfation In Vitro of Mucus Glycoprotein by Submandibular Salivary Gland: Effects of Prostoglandin and Acetylsalicylic Acid," *Biochim. Biophys. Acta* 966: 287-296 (1988).

O'NEAL, et al, "Biological Requirements for Material Integration," *J. Oral Implantol*. 18(3): 243-255 (1992).

OWEN, et al., "Progressive Development of the Rat Osteoblast Phenotype In Vitro: Reciprocal Relationships in Expression of Genes Associated with Osteoblast Proliferation and Differentiation During Formation of the Bone Extracellular Matrix," *J. Cell. Physiol.* 143(3): 420-430 (1990).

PARSEGIAN, "Molecular Forces Governing Tight Contact Between Cellular Surfaces and Substrates," *J. Prosth. Dent.* 49(6): 838-842 (1983).

RUTHERFORD, et al., "Use of Bovine Osteogenic Protein to Promote Rapid Osseointegration of Endosseous Eental Implants," *Int. J. Oral Maxillofac. Imp.* 7(3): 297-301 (1992).

SENGER, et al, "Adhesive Properties of Osteopontin: Regulation by a Naturally Occurring Thrombin-Cleavage in Close Proximity to the GRGDS Cell-Binding Domain," *Mol. Biol. Cell* 5(5): 565-574 (1994).

SENGER, et al., "Cell Migration Promoted by a Potent GRGDS-Containing Thrombin-Cleavage Fragment of Osteopontin," *Biochim. et Biophys. Acta* 1314: 13-24 (1996).

SHEN, "Organic Extracellular Matrix Components at the Bone Cell/Substratum Interface," *Cells and Materials* 3(3): 257-272 (1993).

SMITH, et al., "Osteopontin N-Terminal Domain Contains a Cryptic Adhesive Sequence Recognized by $\alpha_0\beta_1$ Integrin," *J. Biol. Chem.* 271(45): 28485-28491 (1996).

STRAUSS, et al., "Gene Expression During Osteogenic Differentiation in Mandibular Condyles In Vitro," *J. Cell. Biol.* 110(4):1369-1378 (1990).

"Synthetic fusion protein SA341/1," EMBL: XP-002201348, April 23, 1993.

TERMINE, "Sequence of human osteopontin II," EMBL: XP-002201346, October 9,

UNIYAL, et al., "Patterns of Adsorption of Proteins from Human Plasma onto Foreign Surfaces," *Thromb. Haemost.* 47(3): 285-290 (1982).

VAN DIJK, et al., "Evidence that a Non-RGD Domain in Rat Osteopontin is Involved in Cell Attachment," *J. Bone Min. Res.* 8(12): 1499-1505 (1993).

U.S.S.N.: 09/981,845 Filed: October 18, 2001 INFORMATION DISCLOSURE STATEMENT

WEBER, et al., "Receptor-Ligand Interaction between CD44 and Osteopontin (Eta-1)," *Science* 271(5248): 509-512 (1996).

XIANG, et al., "The Effect of Bone Morphogenetic Protein on Osseointegration of Titanium Implants," *J. Oral Maxillofac. Surg.* 51(60):647-651 (1993).

ZOHAR et al., "Single Cell Analysis of Intracellular Osteopontin in Osteogenic Cultures of Fetal Rat Calvarial Cells," J. Cell. Physiol. 170(1):88-100 (1997).

Remarks

This statement should not be interpreted as a representation that an exhaustive search has been conducted or that no better art exists. Moreover, Applicants invite the Examiner to make an independent evaluation of the cited art to determine its relevance to the subject matter of the present application. Applicants are of the opinion that their claims patentably distinguish over the art referred to herein, either alone or in combination.

Respectfully submitted,

Patrea L. Pabst Reg. No. 31,284

Dated: September 20, 2002

HOLLAND & KNIGHT LLP One Atlantic Center 1201 West Peachtree Street, N.E. Suite 2000 Atlanta, Georgia 30309-3400 404-817-8473 FAX 404-817-8588 www.hklaw.com U.S.S.Ñ.: 709/981,845 Filed: October 18, 2001

INFORMATION DISCLOSURE STATEMENT

Certificate of Mailing under 37 C.F.R. § 1.8(a)

I hereby certify that this Information Disclosure Statement, along with any paper referred to as being attached or enclosed, is being deposited with the United States Postal Service on the date shown below with sufficient postage as first-class mail in an envelope addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231.

Date: September 20, 2002

Erica C. Roughner

ATL1 #528849 v1

5